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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/700,221	11/03/2003	William T. Bell	Titan 001.02	3101
37471	7590	05/31/2005	EXAMINER	
W. ALLEN MARCONTELL P.O. BOX 800149 HOUSTON, TX 77280-0149			ELDRED, JOHN W	
			ART UNIT	PAPER NUMBER
			3644	

DATE MAILED: 05/31/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

2

<b>Office Action Summary</b>	<b>Application No.</b> 10/700,221	<b>Applicant(s)</b> BELL, WILLIAM T.	
	<b>Examiner</b> J. Woodrow Eldred	<b>Art Unit</b> 3644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 February 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 15-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 23-26 is/are allowed.
- 6) ☒ Claim(s) 15-22, 27-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 29 is rejected under 35 U.S.C. 102(b) as being clearly anticipated by Engel et al (5,046,563).

See especially Figure 1 and column 3, lines 38-53. In regard to the arguments made in the amendment filed 2-28-05, note that Engel et al does provide a void at each end of the explosive which separates the explosive from the end walls. Elements 14 and 16 are the opposing walls, and the two elements 50 read on the “thrust disk” and are placed into the void in order to separate the explosive cones from the walls.

3. Claim 29 is rejected under 35 U.S.C. 102(b) as being clearly anticipated by Christopher (3,053,182).

See especially Figures 1 and 2; column 3, lines 1-4; and column 3, line 67-column 4, line

4. In response to the arguments made in the amendment filed 2-28-05, note that element 45 provides a void between the explosive cones and the lower end wall, as does element 41 to the upper end wall 14.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 27 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Christopher.

Art Unit: 3644

Christopher discloses a tubing (i.e. well casing) cutter comprising two frustro-conical explosives joined together with a center opening, a metal liner on the conical faces, an booster charge in the center opening, end plates adjacent the explosives, a void between the ends of the explosives, a housing, and a spring centralizer. Christopher fails to disclose the size of the void space between the explosives and the end walls. The choice of such dimensions are clearly a matter of engineering choice in order to provide the desired results and sizes for a particular situation. In addition, when considering the normal sizes of well casings such as described by Christopher are on the order of several inches in diameter, then the corresponding sizes of the voids at the end of the explosives in Figure 1 should easily be considered to be more that 0.100". To have such a dimension is considered to have been obvious to one having ordinary skill in the art.

6. Claims 17, 18, 22, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Engel et al in view of Renfro et al (5,392,684).

Engel et al disclose a tubing cutter comprising two frustro-conical explosives joined together with a center opening, a metal liner on the conical faces, an booster charge in the center opening, end plates adjacent the explosives, a housing, a spring centralizer, and a channel to weaken the housing in the area of the explosive jet stream. Engel et al fail to show having two channels to weaken the housing or to place the channel on the outside of the housing. Renfro et al teach that it is well known to place two channels in a housing in order to weaken the housing so that an explosion will fracture the housing in the desired position and that such channels can be on the outside of the housing. See especially Figures 2-5. Motivation to combine is the mere substitution of known number and placement of channels in order to perform the same function of fracturing a housing in a desired manner. To employ the teachings of Renfro et al on the tubing cutter of Engel et al and adjust the means of weakening the housing and have two channels and, optionally, place them on the outside of the housing is considered to have been obvious to one having ordinary skill in the art. Applicant's argument that Renfro et al cannot be used to teach the claimed placement of weakening channels is not found to be persuasive for the reasons noted in the rejection above.

Art Unit: 3644

7. Claims 15, 16, and 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Engel et al in view of Reese et al (6,634,300).

Engel et al is applied as above, noting that Engel et al fail to disclose the composition of the metal lining on the conical faces of the explosive. Reese et al disclose all claimed compositions for the metal liner on the conical face of a shaped charge explosive. See especially column 5, lines 6-33. Motivation to combine is the mere substitution of known metal liners for the unspecified liner of Engel et al. To employ the teachings of Reese et al and have a metal liner with the claimed composition is considered to have been obvious to one having ordinary skill in the art. The argument in the amendment filed 2-28-05 that Reese is not analogous art is not found to be persuasive. It seems clear that both Reese and Engel et al have an even closer relation than merely being analogous art, since both disclose shaped charge explosive devices and differ merely in intended use of the explosives.

8. Claims 23-26 are allowed.

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Art Unit: 3644

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to J. Woodrow Eldred whose telephone number is 571-273-6901. The examiner can normally be reached on Monday to Thursday, from 8:00 a.m. to 5:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Teri Luu can be reached on 571-272-7045. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



J. Woodrow Eldred  
Primary Examiner  
Art Unit 3644

JWE